

IN THE CLAIMS:

Please amend claims 1-6, 8-11, 14, 17, 19 and 20 as follows:

1. (Currently amended) A method of converting digital data, the method comprising:
binding input digital data into unit blocks, each unit block comprising a plurality of bytes;
modulation-coding each of the plurality of bytes of the unit blocks according to a code conversion table; and
~~allocating~~ adding at least one merging bit ~~for to~~ each modulation-coded unit block.
2. (Currently amended) The method of claim 1, wherein each ~~of the input data~~ unit blocks comprises three to seven bytes.
3. (Currently amended) The method of claim 1, wherein three merging bits are ~~allocated~~ added.
4. (Currently amended) The method of claim 1, wherein each of the plurality of bytes is modulation-coded ~~unit block is encoded~~ into a code word of a fifteen bits according to an 8/15 conversion table.
5. (Currently amended) The method of claim 1, wherein adding the at least one merging bit comprises comparing a running digital sum (RDS) of a present unit block is compared to an RDS of a previous unit block to allocate the at least one merging bit such that the RDS is minimized without violating a run length limited (RLL) restraints.
6. (Currently amended) The method of claim 5, ~~wherein further comprising primarily outputting the at least one merging bit is primarily outputted, and followed by the modulation-coded present unit block is outputted, and~~ while simultaneously updating the running digital sum (RDS) up to the present unit block is simultaneously updated to prepare for

~~allocation~~addition of at least one merging bit ~~for~~to a next unit block.

7. (Previously presented) A method of digital data conversion, comprising:
performing 8/15 modulation-coding of an input data block of m bytes and
simultaneously producing a running digital sum (RDS) of the input data block;
evaluating the RDS of the input data block and an RDS of a previous input data block to
select at least one merging bit; and
outputting the selected at least one merging bit, followed by the modulation-coded input
data block, and updating the RDS for selecting at least one merging bit for a next input data
block.

8. (Currently amended) A method of recording and reproducing digital data,
the method comprising:
binding input digital data into unit blocks, each unit block comprising a plurality of
bytes; ~~and~~
modulation-coding each of the unit blocks;
~~allocating~~adding at least one merging bit ~~for~~to each modulation-coded unit block;
recording byte-unit information indicating the number of bytes comprising each unit
block together with modulation-coded data added with to which the at least one merging bit was
added after modulation-coding; and
decoding ~~the corresponding~~ each unit block using the corresponding recorded byte-unit
information.

9. (Currently amended) The method of claim 8, wherein each of the unit blocks
comprises three to seven bytes.

10. (Currently amended) The method of claim 8, wherein the at least one merging bit
is ~~allocated~~added such that a running digital sum (RDS) value is minimized without violating a
run length limited (RLL) restraints.

11. (Currently amended) A method of converting digital data, the method comprising:
binding input digital data into unit blocks, each unit block comprising a plurality of bytes;
modulation-coding each of the plurality of bytes of the unit blocks according to a code conversion table; ~~and~~
comparing ~~an~~ a running digital sum (RDS) of a present unit block to an RDS of a previous unit block to allocate at least one merging bit for the present modulation-coded unit block such that the RDS is minimized without violating a run length limited (RLL) restraints;
and
~~primarily outputting wherein the at least one merging bit is primarily outputted,~~
~~and followed by the modulation-coded present unit block is outputted, and while simultaneously~~
~~updating the RDS up to the present unit block is simultaneously updated to prepare for allocation~~
of at least one merging bit for a next unit block.

12. (Previously presented) The method of claim 11, wherein each unit block comprises three to seven bytes.

13. (Previously presented) The method of claim 11, wherein three merging bits are allocated for each modulation-coded unit block.

14. (Currently amended) The method of claim 11, wherein each ~~unit block~~ of the plurality of bytes is modulation-coded into a code word of a fifteen bits according to an 8/15 conversion table.

15. (Previously presented) The method of claim 7, wherein m is three to seven bytes.

16. (Previously presented) The method of claim 7, wherein three merging bits are selected.

17. (Currently amended) The method of claim 8, wherein three merging bits are ~~allocated~~added for to each modulation-coded unit block.

18. (Previously presented) The method of claim 8, wherein each of the unit blocks is modulation-coded into a code word of a fifteen bits according to an 8/15 conversion table.

19. (Currently amended) The method of claim 10, ~~further comprising~~wherein adding the at least one merging bit comprises comparing an a running digital sum (RDS) of a present unit block to an RDS of a previous unit block ~~to allocate the at least one merging bit.~~

20. (Currently amended) The method of claim 19, ~~wherein further comprising~~primarily outputting the at least one merging bit is primarily outputted, and followed by the modulation-coded present unit block ~~is outputted, and~~while simultaneously updating the running digital sum (RDS) up to the present unit block is simultaneously updated to prepare for ~~allocation~~addition of at least one merging bit ~~for to~~ a next unit block.